

WHAT IS CLAIMED IS:

1. A wireless LAN terminal comprising:

a reception means for receiving a wireless LAN signal from another wireless LAN terminal;

5 an encapsulation means for encapsulating the wireless LAN signal in OSI layer 2 by providing the wireless LAN signal with a header having its own terminal's MAC address as an originating MAC address and a wireless LAN base station's MAC address as a destination MAC address; and

10 a transmission means for transmitting the encapsulated wireless LAN signal to the wireless LAN base station.

2. The wireless LAN terminal according to claim 1, further comprising:

15 a means for, when a first hierarchy inquiry is received from said another wireless LAN terminal, transmitting a second hierarchy inquiry containing a hierarchy incremented by one higher than a hierarchy contained in the first hierarchy inquiry to the wireless LAN base station; and

20 a means for, when a first hierarchy response is received from the wireless LAN base station, transmitting a second hierarchy response containing the same hierarchy as that contained in the first hierarchy response to said another wireless LAN terminal.

3. The wireless LAN terminal according to claim 1, further comprising:

25 a start/stop means for starting or stopping the reception means based on a request from said another wireless terminal and a state of communication with said another wireless terminal.

4. The wireless LAN terminal according to claim 1, further comprising:

a channel setup means for setting a wireless channel of the reception means.

5. A wireless LAN base station comprising:

an encapsulation means for encapsulating a wireless LAN signal destined for a first wireless LAN terminal in OSI layer 2 by providing the wireless LAN signal with a header having its own base station's MAC address as an originating MAC address and a second wireless LAN terminal's MAC address as a destination MAC address; and

a transmission means for transmitting the encapsulated wireless LAN signal to the second wireless LAN terminal.

6. The wireless LAN terminal according to claim 5, further comprising:

a means for, when a hierarchy inquiry is received from a wireless LAN terminal, returning a hierarchy response containing the same hierarchy as that contained in the hierarchy inquiry to the wireless LAN terminal which has transmitted the hierarchy inquiry.

7. A wireless LAN terminal comprising:

a reception means for receiving a wireless LAN signal which is destined for another wireless LAN terminal and is encapsulated in OSI layer 2 by being provided with a header having a wireless LAN base station's MAC address as an originating MAC address and own terminal's MAC address as a

destination address;

an extraction means for extracting the wireless LAN signal from the encapsulated wireless LAN signal; and

5 a transmission means for transmitting the extracted wireless LAN signal to said another wireless LAN terminal.

8. The wireless LAN terminal according to claim 7, further comprising:

10 a means for, when a first hierarchy inquiry is received from said another wireless LAN terminal, transmitting a second hierarchy inquiry containing a hierarchy incremented by one higher than a hierarchy contained in the first hierarchy inquiry to said another wireless LAN base station; and

15 a means for, when a first hierarchy response is received from the wireless LAN base station, transmitting a second hierarchy response containing the same hierarchy as that contained in the first hierarchy response to said another wireless LAN terminal.

9. The wireless LAN terminal according to claim 7, further comprising:

20 a start/stop means for starting or stopping the transmission means based on a request from said another wireless terminal and a state of communication with said another wireless terminal.

25 10. The wireless LAN terminal according to claim 7, further comprising:

a channel setup means for setting a wireless channel of the transmission means.

11. A wireless LAN terminal comprising:

a reception means for receiving a wireless LAN signal which is transmitted from a first wireless LAN terminal and is encapsulated in OSI layer 2 by being provided with a header having a second wireless LAN terminal's MAC address as an originating MAC address and own base station's MAC address as a destination address; and

an extraction means for extracting the wireless LAN signal from the encapsulated wireless LAN signal.

12. The wireless LAN terminal according to claim 11, further comprising:

a means for, when a hierarchy inquiry is received from a wireless LAN terminal, returning a hierarchy response containing the same hierarchy as that contained in the hierarchy inquiry to the wireless LAN terminal which have transmitted the hierarchy inquiry.

13. A wireless LAN terminal comprising:

a first reception means for receiving a wireless LAN signal from another wireless LAN terminal;

an encapsulation means for encapsulating the wireless LAN signal in OSI layer 2 by providing the wireless LAN signal with a header having its own terminal's MAC address as an originating MAC address and a wireless LAN base station's MAC address as a destination MAC address;

a first transmission means for transmitting the encapsulated wireless LAN signal to the wireless LAN base station;

a second reception means for receiving a wireless LAN signal which

is destined for said another wireless LAN terminal and is encapsulated in OSI layer 2 by being provided with a header having the wireless LAN base station's MAC address as an originating MAC address and own terminal's MAC address as a destination address;

5 an extraction means for extracting the wireless LAN signal from the encapsulated wireless LAN signal received by the second reception means; and

 a second transmission means for transmitting the extracted wireless LAN signal to said another wireless LAN terminal.

10 14. The wireless LAN terminal according to claim 13, further comprising:

 a means for, when a first hierarchy inquiry is received from said another wireless LAN terminal, transmitting a second hierarchy inquiry containing a hierarchy incremented by one higher than a hierarchy contained
15 in the first hierarchy inquiry to the wireless LAN base station; and

 a means for, when a first hierarchy response is received from the wireless LAN base station, transmitting a second hierarchy response containing the same hierarchy as that contained in the first hierarchy response to said another wireless LAN terminal.

20 15. The wireless LAN terminal according to claim 13,
 wherein the first reception means and the second reception means operate in a time sharing manner using a common wireless LAN module; and
 wherein the first transmission means and the second transmission
25 means operate in a time sharing manner using a common wireless LAN module.

16. The wireless LAN terminal according to claim 13, further comprising:

a start/stop means for starting or stopping the first reception means and the second transmission means based on a request from said another
5 wireless terminal and a state of communication with said another wireless terminal.

17. The wireless LAN terminal according to claim 13, further comprising:

10 a channel setup means for setting a wireless channel of the first reception means and a wireless channel of the second transmission means.

18. A wireless LAN terminal which communicates with a wireless LAN base station directly or via another wireless LAN terminal, comprising:

15 an inquiry means for sending a hierarchy inquiry to said another wireless LAN terminal and, if possible, to the wireless LAN base station; and

a roaming means for roaming from said another wireless LAN terminal to the wireless LAN base station when it is detected that a hierarchy indicated by a hierarchy response from the wireless LAN base station to the
20 hierarchy inquiry is lower than a hierarchy indicated by a hierarchy response from said another wireless LAN terminal to the hierarchy inquiry.

19. A wireless communication method comprising the steps of:
receiving a wireless LAN signal from another wireless LAN
25 terminal;

encapsulating the wireless LAN signal in OSI layer 2 by providing the wireless LAN signal with a header having its own wireless LAN terminal's

MAC address as an originating MAC address and a wireless LAN base station's MAC address as a destination MAC address; and

transmitting the encapsulated wireless LAN signal to the wireless LAN base station.

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20. A wireless communication method comprising the steps of:
encapsulating a wireless LAN signal destined for a first wireless LAN terminal in OSI layer 2 by providing the wireless LAN signal with a header having its own wireless LAN base station's MAC address as an
10 originating MAC address and a second wireless LAN terminal's MAC address as a destination MAC address; and

transmitting the encapsulated wireless LAN signal to the second wireless LAN terminal.

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21. A wireless communication method comprising the steps of:
receiving a wireless LAN signal which is destined for another wireless LAN terminal and is encapsulated in OSI layer 2 by being provided with a header having a wireless LAN base station's MAC address as an
15 originating MAC address and own terminal's MAC address as a destination
20 address;

extracting the wireless LAN signal from the encapsulated wireless LAN signal; and

transmitting the extracted wireless LAN signal to said another wireless LAN terminal.

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22. A wireless communication method comprising the steps of:
receiving a wireless LAN signal which is transmitted from a first

wireless LAN terminal and is encapsulated in OSI layer 2 by being provided with a header having a second wireless LAN terminal's MAC address as an originating MAC address and own wireless LAN base station's MAC address as a destination address; and

5 extracting the wireless LAN signal from the encapsulated wireless LAN signal.

23. A roaming method for a wireless LAN terminal to communicate with a wireless LAN base station directly or via another wireless LAN terminal, comprising the steps of:

10 making inquiries by sending a hierarchy inquiry to said another wireless LAN terminal and, if possible, to the wireless LAN base station; and
 roaming from said another wireless LAN terminal to the wireless LAN base station when it is detected that a hierarchy indicated by a hierarchy response from the wireless LAN base station to the hierarchy inquiry is lower
15 than a hierarchy indicated by a hierarchy response from said another wireless LAN terminal to the hierarchy inquiry.